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Deputy Minister.

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 188

LIQUOR PICIS CARBONIS (SOLUTION OF COAL TAR.)

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OTTAWA, September 20, 1909.

W. J. GERALD, Esq.,
Deputy Minister of Inland Revenue.

SIR,—I have the honour to submit herewith a report upon the examination of twenty-four (24) samples purchased by our inspectors as *Liquor Picis Carbonis* (Solution of Coal Tar).

The British Pharmacopœia directs this article to be prepared as follows—'Digest for two days at 120° F., one part by weight of prepared coal tar, in five of a Tincture of Quillaia (1 in 10, alcohol 90 per cent.) Decant, or filter when cold.'

The finished *Liquor Picis Carbonis* should therefore contain about 75 per cent of its weight of 90 per cent alcohol; or approximately 67·5 per cent of its weight of absolute alcohol. Allowing for evaporation and loss, it may be reasonable to accept 60 per cent by weight, or 67 per cent by volume, in the article as dispensed. In all samples containing alcohol, the content of alcohol meets quantitative requirements.

An alcoholic solution of coal tar, known as *Liquor Carbonis Detergens*, is much employed in the treatment of skin diseases. This is not official, and is not to be confounded with *Liquor Picis Carbonis*, as above described.

Various solutions of coal tar, some of them being proprietary articles, are found on the market. Five samples of this character have been accepted by our inspectors. In accepting these articles, unless expressly supplied as *Liquor Picis Carbonis*, our Inspectors are at fault.

This is clearly the case in Nos. 987 and 988, which are distinctly labelled '*Goudron de Norvège*', and are proprietary. They contain no alcohol. Nos. 41170 and 41171 (Kingston) and 41345 (Toronto) are likewise non-alcoholic solutions of tar. If they were offered as *Liquor Picis Carbonis*, the vendor is guilty of substitution. It would appear from the remarks of the inspector that No. 41345 was actually so supplied, but in good faith. See App. D. *Liquor Picis Carbonis* is the only solution of coal tar officially authorized by the British Pharmacopœia. Several other solutions of Coal Tar are more or less widely known and used. As long as these comply with the requirements of the Patent or Proprietary Medicines Act, they are properly enough dispensed, when asked for. But they must not be supplied when *Liquor Picis Carbonis*, or Official Solution of Coal Tar is demanded.

Of the remaining 19 samples, 13 correspond to the pharmacopœal requirements, and are genuine. Six samples are adulterated, in the sense that they are made with wood alcohol, or with methylated spirit, instead of with ethyl alcohol as required by the Pharmacopœia. The Inland Revenue Act (R. S. C. 34) enacts as follows (S. 266):—

'Every person who uses spirits containing methyl alcohol in any form, in any pharmaceutical or medicinal preparation intended for internal use, shall be liable to a penalty of five hundred dollars.'

The Inland Revenue Amendment Act, of 1908, further enacts (Sec. 7).—'Every person who uses methyl alcohol, or spirits containing methyl alcohol in any pharmaceutical, medicinal or other preparation intended for external use shall affix to the vessel containing the said preparation a label stating, in black letters not less than one-fourth of an inch in height, the presence of methyl alcohol therein; and any person violating the provisions of this sub-section shall incur a penalty not less than fifty dollars and not exceeding two hundred dollars.' Although five samples are found to be technically adulterated, I am convinced that in no case has there been any intent to commit fraud. Failure to meet the requirements of the Act apparently results from non-acquaintance with these requirements. The Inland Revenue Amendment Act was assented to April 10, 1908, up to which date the employment of wood alcohol in preparations for external use, without declaration, was not illegal. My justification in advising that no legal action be taken in the present case (the first official inspection of *Liquor Picis Carbonis*) must be found in the above remarks, and in excerpts from correspondence which appear as appendices to this report.

I beg to recommend the publication of this report as Bulletin No. 188.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,
Chief Analyst.

BULLETIN No. 188—LIQUOR PICIS

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of the Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cost.		

DISTRICT OF NOVA SCOTIA—

1909.							
Aug. 17..	Liq. Picis Carbonis (solution of coal tar).	41736	National Drug Co., Halifax, N.S.	6 oz..	75	Nat. Drug and Chem. Co., Montreal.	Liq. Picis Carb. B.P.
" 17..	" " "	41737	Brown Bros. & Co., Halifax, N.S.	6 " "	75	" " "	" " "

DISTRICT OF PRINCE EDWARD ISLAND—

July 28..	Liq. Picis Carbonis (solution of coal tar).	38571	P. N. Enman, Summerside.	6 oz..	90	W. V. Wright, Southwark, London.	.. .. .
" 29..	" " "	38572	C. D. Rankin, Charlottetown.	6 " "	90	" " "	.. .. .

DISTRICT OF NEW BRUNSWICK—

July 20..	Liq. Picis Carbonis (solution of coal tar).	39536	The Nat. Drug Co., Ltd., St. John, N.B.	6 oz..	60	Vendors.....	.. .. .
" 26..	" " "	39537	A. Chipman Smith & Co.	6 " "	90	W. V. Wright & Co., Southwark, London.	Wright's Liq. Carbonis

DISTRICT OF ST. HYACINTHE—

Aug. 3..	Liq. Picis Carbonis (solution of coal tar).	987	Griffith's Pharmacy, Sherbrooke.	1 bot.	25	Dr. J. G. Laviolette, Montreal.	Goudron de Norvège (Liquor concentrée.)
" 10..	" " "	988	St. Jacques Pharmacy, St. Hyacinthe.	1 " "	75	Guyot & Paris, France.	Goudron Guyot. (Solution not guaranteed.)

DISTRICT OF MONTREAL—

July 20..	Liq. Picis Carbonis (solution of coal tar).	40283	B. Fox, 168 St. Lawrence B., Montreal.	6 oz..	60	Nat. Drug and Chem. Co., Montreal.	.. .. .
" 20..	" " "	40284	John J. Weinfeld, 197 Bleury St., Montreal.	6 " "	60	Unknown.....	.. .. .

CARBONIS (SOLUTION OF COAL TAR).

RESULTS OF ANALYSIS.										No. of Sample.	Remarks, and Opinion of the Chief Analyst.
Density of Sample.	Approximate Alcohol, p.c.		Examination for Methyl Alcohol.								
	Weight.	Volume.	Density.	Alcohol by Weight.	Refraction.			Methyl Alcohol.			
					Found.	Theory	Difference.				

R. J. WAUGH, INSPECTOR.

	p.c.	p.c.		p.c.				p.c. of total Alcohol.		
0.8656	72.70	79.27	0.9452	37.00	78.3	78.00	+0.3	none.	41736	Genuine.
0.8656	72.70	79.27	0.9576	30.11	69.0	69.14	-0.14	none	41737	"

THEO. MOORE, INSPECTOR.

	p.c.	p.c.		p.c.				p.c. of total Alcohol.		
0.8814	66.09	73.38	0.9406	39.50	80.8	80.8	0.0	none	38571	Genuine.
0.8864	63.96	71.42	0.9721	19.58	49.5	49.7	-0.2	none	38572	"

J. C. FERGUSON, INSPECTOR.

	p.c.	p.c.		p.c.				p.c. of total Alcohol.		
0.8464	80.79	86.15	0.9394	40.10	75.5	81.6	-6.1	14.0	39536	Adulterated. See Appendix A.
0.8829	65.46	72.80	0.9270	46.00	86.7	87.0	-0.3	none	39537	Genuine.

J. C. ROULEAU, INSPECTOR.

	p.c.	p.c.		p.c.				p.c. of total Alcohol.		
1.0110	none	none	.....	.....	.....	.....	.....	.....	987	Proprietary.
1.0190	none	none	.....	.....	.....	.....	.....	.....	988	"

J. J. COSTIGAN, INSPECTOR.

	p.c.	p.c.		p.c.				p.c. of total Alcohol.		
0.8634	73.63	80.08	0.9701	16.38	43.2	42.9	+0.3	none	40283	Genuine.
0.8619	74.27	80.64	0.9775	15.25	41.0	41.0	0.0	none	40284	"

BULLETIN No. 188—LIQUOR PICIS

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of the Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report. — (Is not an expression of opinion.)
				Quantity.	Cents.		
DISTRICT OF OTTAWA—							
1909.							
Sept. 1..	Liq. Picis Carbonis (solution of coal tar).	41279	Nat. Drug and Chem. Co., Ltd., Ottawa.	8 oz.	70	Vendors.....	Labelled 'Liq. Picis Carbonis B.P.'
" 1..	" " "	41280	Lymans, Ltd., Ottawa..	8 " "	68	Lymans, Ltd., Montreal.	" " "
DISTRICT OF KINGSTON—							
Aug. 5..	Solution of coal tar.	41170	Nat. Drug Co., Kingston.	6 oz.	8		.....
" 6..	" " "	41171	R. Templeton, Belleville.	6 " "	8	A. Ramsay & Son, Montreal.	.....
DISTRICT OF TORONTO—							
Aug. 13..	Liq. Picis Carbonis (solution of coal tar).	41344	A. E. Legge, Toronto..	6 oz.	35	The E. B. Shuttleworth Chem. Co., Ltd., Toronto.	Liq. Carbonis Detergens. Sold as Liq. Picis Carbonis.
" 13..	" " "	41345	Hargreaves Bros., 162 Queen St. West, Toronto.	6 " "	25	Lyman, Knox & Clarkson, Toronto.	Sold as Liq. Picis Carbonis.
DISTRICT OF LONDON—							
July 23..	Liq. Picis Carbonis (solution of coal tar).	30695	C. E. Nasmith & Co., Stratford.	3 bot.	60	E. B. Shuttleworth & Co., Toronto.	.....
" 29..	Liq. Carbonis detergens.	30809	J. E. Hovey, Clinton...	3 oz.	25	J. Winer & Co., Hamilton.	Liq. Carbonis Detergens.
DISTRICT OF WINDSOR—							
July 28..	Liq. Picis Carbonis (solution of coal tar).	35993	Anderson & Nelles, London.	6 oz.	60	Nat. Drug Co., Montreal.	.....
" 28..	Solut. of coal tar	35999	W. T. Strong, London..	6 " "	60	Vendor .....	.....

CARBONIS (SOLUTION OF COAL TAR).

RESULTS OF ANALYSIS.										No. of Sample.	Remarks, and Opinion of the Chief Analyst.
Density of Sample.	Approximate Alcohol, p.c.		Examination for Methyl Alcohol.								
	Weight.	Volume.	Density.	Alcohol by Weight.	Refraction.			Methyl Alcohol.			
					Found.	Theory.	Difference.				

J. A. RICKEY, INSPECTOR.

	p.c.	p.c.		p.c.					p.c. of total Alcohol.		
0.8632	73.71	80.15	0.9342	42.67	84.3	83.9	+0.4		none	41279	Genuine.
0.8472	80.46	85.87	0.9118	52.77	92.4	92.1	+0.3		none	41280	"

JAS. HOGAN, INSPECTOR.

1.1930	none	none								41170	Is not Liquor Picis Carbonis. See App. B.
1.1654	none	none								41171	" " " Sold as solution of coal tar.

H. J. DAGER, INSPECTOR.

0.8953	60.13	67.81	0.9419	38.83	43.5	80.00	-36.5	86.1	41344	Is not Liq. Picis Carbonis. The fact of being made with methyl alcohol should be stated on the label. See App. C.
1.0211	none	none							41345	Is not Liquor Picis Carbonis. See App. D.

T. KIDD, INSPECTOR.

0.8545	77.50	83.43	0.9242	47.27	42.8	88.0	-45.2	93.4	30695	Adulterated. Contains methyl alcohol. See App. E.
0.8632	73.71	80.15	0.9486	35.20	39.6	76.1	-36.5	90.6	30809	Is adulterated and not Liq. Picis Carbonis. The fact of being made with methyl alcohol should be stated on the label. See App. F.

JNO. TALBOT, INSPECTOR.

0.8707	70.56	77.39	0.9168	50.61	91.0	90.8	+0.2	none	35098	Genuine.
0.8379	84.12	88.79	0.9234	47.64	46.05	88.35	-42.3	86.7	35999	Adulterated. Contains methyl alcohol. See App. G.

BULLETIN No. 188—LIQUOR PICIS

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of the Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report. — (Is not an expression of opinion.)
				Quantity.	Cents.		

DISTRICT OF CALGARY—

1909;							
Aug. 11..	Liq. Picis Carbonis (solution of coal tar).	35598	A. Archibald, Edmonton.	6 oz..	50	Wright & Co., Southwark, London, Eng.	.....
" 11..	" " "	35599	D. W. Macdonald, Edmonton.	6 " ..	50	Unknown .....	.....

DISTRICT OF VANCOUVER—

July —..	Liq. Picis Carbonis (solution of coal tar).	37716	Wilson's Drug Store, Vancouver.	6 oz..	60	Vendor .....	.....
" —..	" " "	37717	Leslie G. Henderson, Vancouver.	6 oz..	1 50	W. V. Wright & Co., Southwark, London.	.....

CARBONIS (SOLUTION OF COAL TAR).

RESULTS OF ANALYSIS.										No. of Sample.	Remarks, and Opinion of the Chief Analyst.
Density of Sample.	Approximate Alcohol, p.c.		Examination for Methyl Alcohol.								
	Weight.	Volume.	Density.	Alcohol by Weight.	Refraction.			Methyl Alcohol.			
					Found.	Theory.	Difference.				

R. W. FLETCHER, INSPECTOR.

	p.c.	p.c.		p.c.					p.c. of total		
0.8876	63.43	70.93	0.9709	20.58	54.5	54.6	-0.1	none	35598	Genuine.	
0.8567	76.58	82.65	0.9298	44.73	53.7	86.0	-32.3	69.3	35599	Adulterated. Contains methyl alcohol.	

J. F. POWER, INSPECTOR.

0.8558	76.96	82.97	0.9768	15.83	42.6	42.2	+0.4	none	37716	Genuine.
0.8883	64.43	71.86	0.9452	37.00	77.90	78.0	-0.1	none	37717	"

APPENDICES.

A.—Referring to sample 39536:—This sample was carefully checked, and the presence of methyl alcohol established. It would appear that the manufacturers were not aware that wood alcohol had been used in its preparation, and the small amount of methyl alcohol present may have been added through some oversight in manufacture. The vendors write, under date 4th October —‘Our laboratory man still claims that he uses nothing but pure alcohol in the manufacture of Liq. Carbonis Detergens; but at the same time I have no doubt that your analysis is correct, and I will have what we have on hand, destroyed, and will see that our new lot contains nothing but pure grain alcohol.’

B.—In regard to sample 41170, the following letter of 22 September, has been received from the vendors. ‘Your advance notice *re* Liquor Picis Carbonis is duly to hand, and your observation noted. We have to thank you for the information. It is information to us. On inquiry we find that this preparation was taken over by this Company from their predecessors, Henry Skinner & Co. On further inquiry we are informed that this was made by Henry Skinner & Co., probably 15 years ago, before the preparation became official. What little we had in stock (less than a gallon) has been destroyed’.

C.—Sample 41344 was apparently tendered as Liquor Carbonis Detergens, and invoiced as Liquor Carbonis, by our Inspector in a mistake. The vendor writes under date 21 September:—‘Your collector received sample from me as Liquor Carbonis Detergens, one of the not official preparations by E. B. Shuttleworth. This preparation is made from an old formula used before the British Pharmacopœia of 1898 made Liquor Picis Carbonis official. My assistant showed him original bottle, labelled Liquor Carbonis Detergens, and also showed him Squire’s Companion to the B. P. which stated that it was not official. We understood he was taking it, as labelled, for he appeared to copy the label. He asked for Liquor Picis Carbonis, and we showed him that the preparation we had was not the official one’.

Our inspector’s account of the transaction is as follows:—‘The clerk serving me asked if Detergens was what I wanted. I said Liquor Picis Carbonis was what I wanted. He asked proprietor about it. Proprietor said it was all right, and the clerk then filled the bottle’. While it is true that Liquor Carbonis Detergens fills many of the requirements of Liquor Picis Carbonis, the preparations are not identical, and should not be dispensed as being so.

Regarding the presence of methyl alcohol in this preparation, the E. B. Shuttleworth Co. writes under date 25th September:—‘We are in receipt of your favour of the 24th instant, with inclosure of Inland Revenue Act, for which accept our thanks. This is the first intimation we have had, that preparations containing Methyl. Alcohol should be labelled as such, and we will immediately comply with that condition, although it will not affect us materially as we believe we have only one or two preparations in which we use it; this particular preparation (Liq. Carbonis Detergens) is used almost exclusively as a disinfectant’.

D.—In the matter of sample 41345, the vendors write, under date 20th September:—‘We should explain in fairness to the manufacturer whose name is attached to the container, that the title on the container is Liquor Carbonis Detergens. Our custom has been to treat ‘Liquor Carbonis Detergens’ and ‘Liquor Picis Carbonis’ as identically one and the same. From any information at hand, we have felt justified in this conclusion and in regard to the non-alcoholic adulteration, authorities state both contain alcohol’. Also under date 25th September:—‘Replying to yours dated 23rd instant, we presume we must accept responsibility for the article sold to Inspector Dager. We would however point out in justification of our custom, that in 1888 some years previous to the adoption by B. P. revision committee of any formula for Liquor Picis Carbonis, we prepared a Liquor Carbonis Detergens as per inclosed formula, and as it is practically identical with the B. P. article and as the official formula was

evidently intended for uses that had been given the *Liquor Carbonis Detergens*, we continued to prepare it by our method. Unfortunately however as the quantity used became very much reduced, we purchased the article instead of preparing it ourselves. We must accept responsibility, but contend that we acted conscientiously and in good faith."

E.—Regarding sample 30695, Mr. H. M. Myers of Stratford, makes a declaration, of date 28th September, to the effect that the sample supplied by him as *Liquor Picis Carbonis*, was made by the E. B. Shuttleworth Co., of Toronto.

F.—In regard to sample 30809, Mr. Hovey writes as follows, under date 20th September:—"Received, your report to-day stating the sample of *Liq. Picis Carbonis* obtained from me on 29th July contains wood alcohol. I find on looking over my old invoices that I procured a one pound bottle from Messrs J. Winer & Co., Hamilton, on July 8th, 1908. It was from that bottle that I gave the sample to Mr. Kidd. The bottle I still have in stock. It is labelled "*Liq. Carbon. Detergens*" J. W. & Co. label. There is also another label on bottom of bottle showing J. W. & Co., to be a branch of the National Drug & Chemical Company'.

G.—Regarding 35999, the vendor writes:—"Was made by us with *Columbia Spirits No. 1*, and to tell the truth we can see no reasonable objection to this, as *Liq. Picis Carbonis* is never used undiluted, but always in weak watery solutions. If this is harmful, how is it the hospitals use *Columbia Spirits No. 1* for bathing purposes? We will be pleased to conform strictly to the B. P. process in future'.